

Remarks

Applicant thanks Examiner Baker for her careful consideration of the issues in the related case (USSN 09/253,153), and for granting a productive in-person interview on June 4, 2003 in that case. Many of the same issues in the parent case are relevant in this continuation-in-part application. As discussed at that interview, Applicant has crafted claims specifying either that a combinatorial library is attached to the optical fiber, where structural characteristics of that combinatorial library are recited, or that the optical fiber is wrapped about a geometric template.

Claims 1, 3, 4, 6-13, 31-35, 38-46, and 49-52 are pending in the application and stand rejected. New claims 53-75 have been added. Applicant respectfully requests reexamination and reconsideration of the case, as amended. Applicant respectfully submits that the new claim language obviates the outstanding rejections; each rejection is discussed individually below.

I. New Matter Rejection

The Examiner rejected claims 1, 3, 4, 6-8, 10, 11, 13, 31-35, 38-46, and 49-52 as containing subject matter that was new matter not described in the specification as filed. This rejection does not apply to the present claims, all of which are amply supported by the specification.

For example, claims 54, 64, and 65 recite an array comprising a library of chemical compounds, which library is “combinatorial” in that “its members can be generated via chemical reactions in which a first set of moieties is attached to a second set of intermediates so that a larger number of products is produced than different chemical reactions are performed”. Support for this definition of a combinatorial library can be found in the application as filed, for example, on page 2, lines 5-page 3, line 8. Discussion of inventive arrays comprising such libraries, as well as their uses and advantages, can be found at many points in the specification including, for example, page 4, lines 4-10; and page 13, line 22-page 14, line 8.

Claims 55 and 61 recite an array comprising a geometric substrate about which the support is wrapped. Description of an array wrapped about a geometric substrate, and the uses and advantages of such an array, can be found at many points in the specification of the parent application USSN 09/253,153 (which is incorporated into the present application by reference)

including, for example, page 9, line 29-11, line 21; page 18, line 20-page 19, line 19; page 22, line 25-page 25, line 6, as well as in the present application, for example, page 14, lines 4-7.

Claim 58 recites an array comprising a library of chemical compounds whose members are related to one another by synthetic history, such that each member of a first subset of compounds within the library shares a first common feature resulting from a first common chemical reaction, and each member of the first subset of compounds is separated from each next closest member by a first distance. Such an array is described at many points within the specification of the parent application USSN 09/253,153 including, for example, page 4, lines 14-18; page 7, line 26-page 8, line 17; page 9, line 25-page 11, line 3; page 18, line 1-page 25, line 6, as well as in the present application, for example, page 4, lines 5-7; and page 14, lines 3-4.

II. Rejection under 35 U.S.C. § 112, second paragraph. Claims 1, 3, 4, 6-8, 10, 11, 13, 31-35, 38-46, and 49-52 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The language objected to has not been included in the newly added claims; therefore, the rejection is moot.

III. Rejection under 35 U.S.C. § 103(a). Claims 1, 3, 4, 6-8, 13, 30-37, and 42-50 have been rejected by the Examiner under 35 U.S.C. § 103(a) as being unpatentable over Browne *et al.* (*Anal. Chem.* 1996) in view of Pirrung *et al.* (U.S. Patent 5,143,854), or further in view of Pilevar *et al.* (*Anal. Chem.* 1998). None of these references, taken individually or together, can render obvious the present claims.

Browne *et al.* describe a sol-gel clad fiber optic waveguide in which various dyes have been introduced as dopants. The Examiner asserts that these dyes are different chemical compounds arrayed on the fiber in linear organization. First, Applicant respectfully submits that the dyes are not *covalently* attached to the optical fiber. Second, the dyes are not members of a combinatorial library or a library that shares periodicity of a reaction product. Third, Browne *et al.* does not mention a geometric substrate, its desirability, or use. Given these deficiency in

Browne, it cannot render obvious the claimed invention even when combined with Pirrung or Pilevar.

The Examiner asserts that Pirrung teaches peptides and proteins as materials of an array on an optical fiber. Although the peptides or proteins are covalently attached to the array, Pirrung does not teach that the peptides or proteins are members of a combinatorial library or that a geometric substrate would be useful or desirable. Therefore, Browne in combination with Pirrung does not teach the claimed invention.

The Examiner cites Pilevar *et al.* for teaching the attachment of fluorophore to an optical fiber through the derivatization of the fiber using aminopropylsilane. Applicant submits that Pilevar *et al.* does not cure the deficiencies—1) that the peptides or proteins are members of a combinatorial library; and 2) that a geometric template is desirable. Therefore, Applicant submits that even when all three references are combined, they do not render obvious the claimed invention; therefore, Applicant request that the rejection be removed.

Furthermore, Applicant respectfully points out that the scientific community has embraced the inventive arrays as truly novel and distinct. Attached to this Response is a PTO-1449 form listing three references that address the inventive work. The authors note, for example, “In retrospect, the lack of prior work on libraries formatted in one dimension is striking” (Czarnik, *Chem. Eng. News*, Sept 13, 1999, pg. 9), and describe the inventive work as “a totally novel technique and really quite clever” (Terrett, *New Scientist*, Sept 18, 1999, pg. 14).

In view of the forgoing arguments, Applicant respectfully submits that the present case is now in condition for allowance. A Notice to that effect is requested.

Please charge any fees that may be required for the processing of this Response, or credit any overpayments, to our Deposit Account No. 03-1721.

Respectfully submitted,


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